PHENIX

Freezing!

Winter

Technical Support 2008

PHENIX
WEEKLY PLANNING

1/17/2008

Don Lynch

Chilly!

SO COLD!

Run 8 Task Schedule

Technical Support 2008

Item	Start	Finish
RPC Tent preparation	On Going	1/18 Gas ready
Lab Holiday (Martin Luther King Day)	1/21	1/21
Switch to p+p run	1/28	1/28
Next scheduled Maint. Day	1/30	1/30
Scheduled Maint. Day	2/13	2/13
Scheduled Maint. Day	2/27	2/27
Mu Trigger FEE Prototype II install	2/27 ?	2/27 ?
Complete new beampipe design	2/29	2/29
End PP run	3/12	3/12
Low Energy Run	3/13	3/14
End of Run 8	3/15	5/27
Install new UPS	~3/15	~3/31
End of Run Party	4/4	4/4
Install Gas house UPS's	4/15	6/13
Install HBD West for test run	7/15	9/15

Yesterday's Maintenance: Jan. 16th

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- PC work (Carter and Rob have a plan?)
- CM access ladder field fit tests (see slides)
- MuTrggr FEE Platform locations
- CM Crane Measurements
- Magnet tests?
- Other tasks?

Next Maintenance Access Day Scheduled for 1/27/08:

- Switch over to p-p run
- switch Pad chambers onto gas with alcohol
- move ZDC back into symmetric-beam positions
- install access step on BBC rack/CM access ladder hardware
- TBD subsystem maintenance

2008 PHENIX Shutdown Prep

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January-March 2008:

- Run 8 technical support
- RPC factory support
- new beam pipe design completion and review
- CM Crane design review and purchase placement
- Muon Trigger FEE prototype test II
- MMN station 1 & 2 scaffolding design and safety review
- Muon Trigger Rack platform design and review
- RPC3 installation review preparation (support structure, transport and installation fixture design, tunnel vapor barrier modification design, gas mixing and distribution system and piping design).
- VTX, FVTX & NCC technical support

CM Ladder/Stair Shutdown Access

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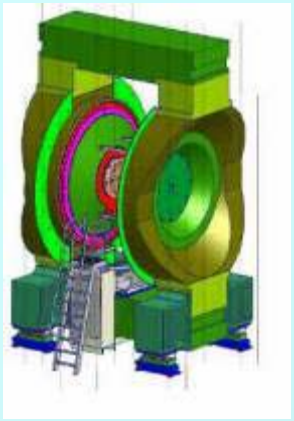

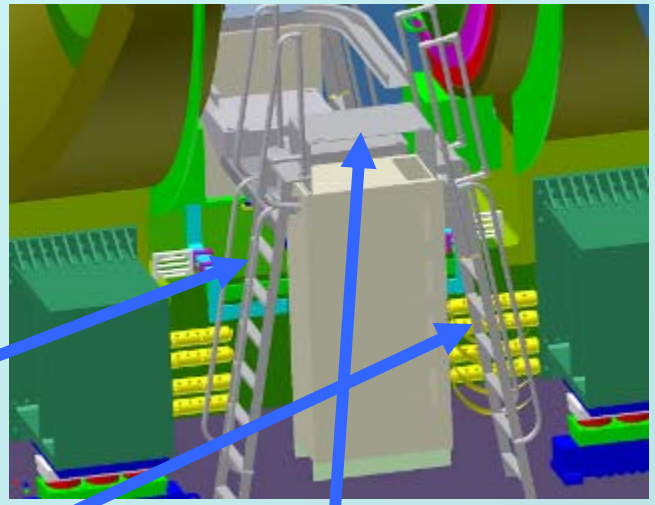

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RPC Factory Support

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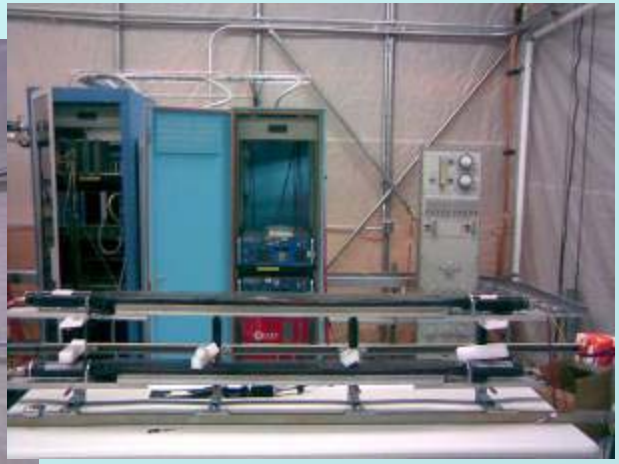

Cosmic Ray Test Stand
Near completion

Safety walkthru Complete
Documentation complete, needs to be formatted per PHENIX procedure template. Blue sheeting nearly done (minor bugs in electronics are being diagnosed). Need response procedures for worker and CAS watch response to specific alarm cscenarios.

Factory nearly ready to begin prototype tests

RPC Factory Support, cont.

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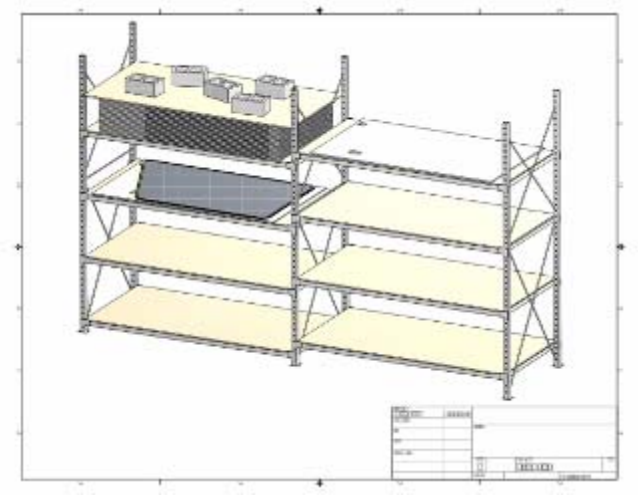
Tent Preparation – Done

Safety systems – Installation complete, mini-blue sheet

Equipment Issues – Need specs for 3T (Tilting Transport Table) and GMHOS (gap, module and ½ octant storage) racks, then need to fabricate assemble and install.

Work plan – Update for factory procedures

Security –Comply with C-A policy



RPC Factory Issues, cont.

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Area to the west of RPC factory is now re-posted and cordoned with yellow tape as a controlled area. A corridor has been left to access the bathroom. Any activities which will need to traverse the posted area (e.g. delivery of materials, equipment etc. through the roll up doors) will require a work permit

RPC Factory Support

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Safety System Procedure Done!

RPC Safety System Blue Sheet Certification Test Procedure

1.0 General System Description of Operation

The RPC Facility Safety System monitors conditions inside & outside the tented structure and, upon detection of *major* safety faults, will cause interruption of the 208 volt and 120 volt AC power distribution network inside the tent. Additionally, the major faults will cause the RPC gas supply (solenoid operated) valves to close, thereby terminating gas flow into the detector chambers under production & test inside the tent. The system will also detect *minor* alarm conditions. The major & minor alarms will be transmitted to system experts in the form of pre-recorded messages and received on cell/home phones or BNL phones in the MCR, CAS Watch Station or PCR.

The following **major** safety faults will trip electric power and close the three gas valves supplying Isobutane, Sulfurhexafluoride, and Freon (R134A) gasses.

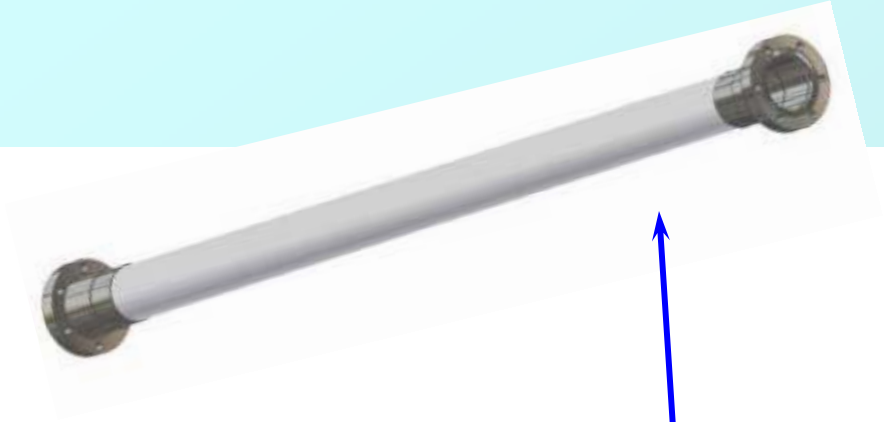
1) **High level smoke sensed inside the tent.** (BNL Fire/Rescue Group response)
2) **Flammable gas high level sensed inside or outside the tent.** (CAS Watch response)
3) **Emergency stop (crash) push button stations inside or outside the tent.**

The following **major** safety fault will not trip electric power, however, it will close the three gas valves:

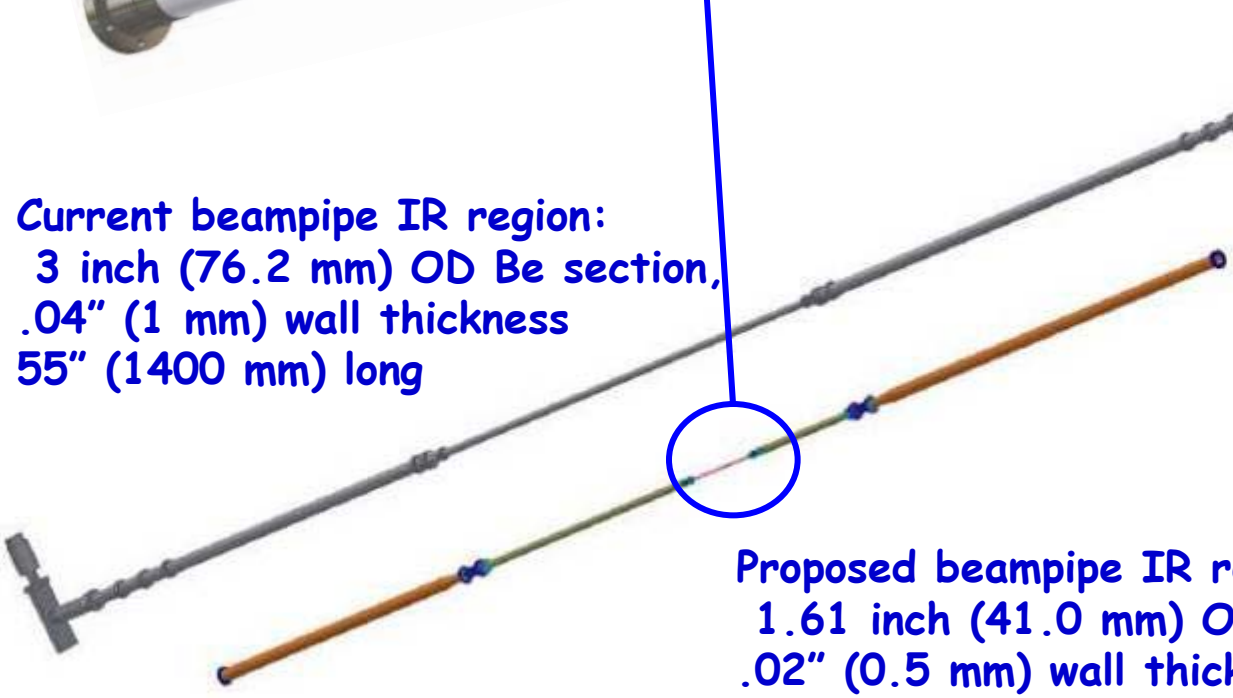
1) **SF6 gas high level sensed inside or outside the tent.** (CAS Watch response)

1

New Beampipe Design & Review



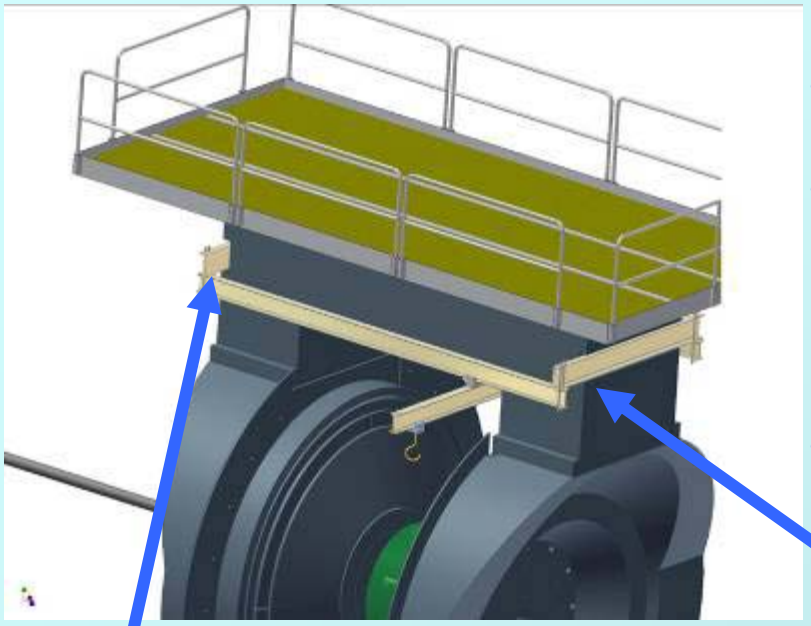
Current beampipe IR region:
3 inch (76.2 mm) OD Be section,
.04" (1 mm) wall thickness
55" (1400 mm) long



Design to be ready for final review by 2/29/08

Proposed beampipe IR region:
1.61 inch (41.0 mm) OD Be section,
.02" (0.5 mm) wall thickness
31.5" (800 mm) long

CM Crane



- Crane Design nearly ready for review
- Uses Gorbel 1-ton capacity Ceiling mounted Bridge Crane, modified to be supported by 2 Steel Channels attached to CM
- Bridge and hoist to be removed for running.

measuring clearances for crane runways

Muon Trigger FEE Prototype Test II

Proposed measurements

- Install a ADTX chassis (two ADTX boards in it) to MuTR North arm octant 7
- Measure noise at MuTr FEE with PHENIX DAQ (MuTr standalone)
- Measure noise (=fake hit rate) at ADTX board with local DAQ (or MuID ROC)
- A simpler version of summer test

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Muon Trigger FEE Prototype Test II

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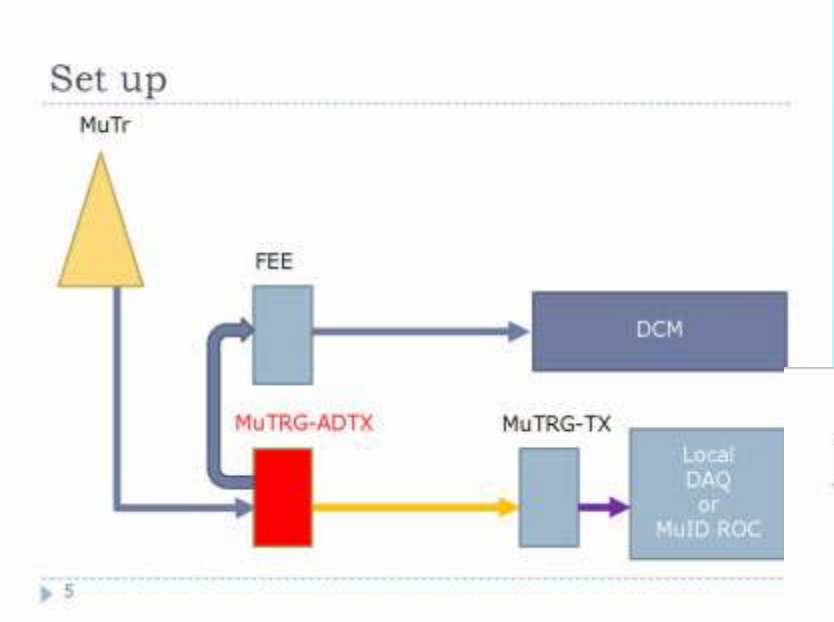

Muon Trigger FEE Prototype Test II

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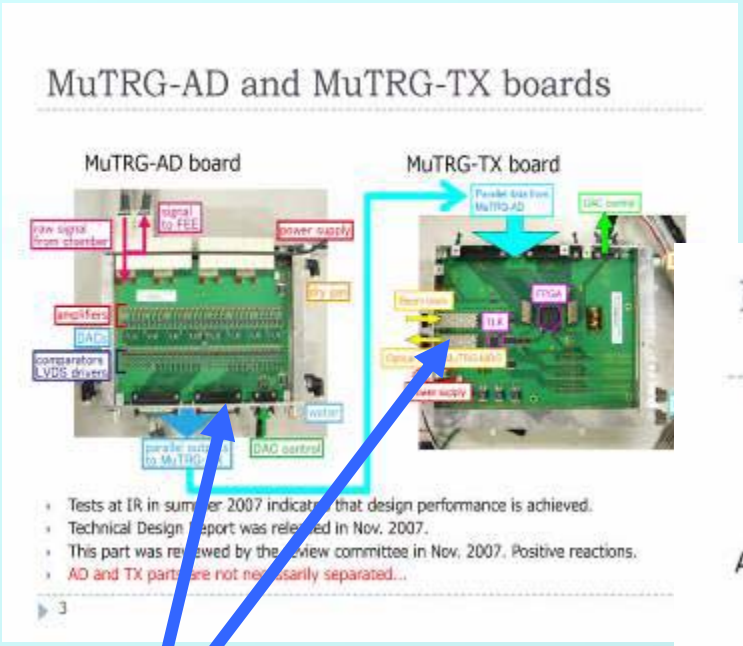
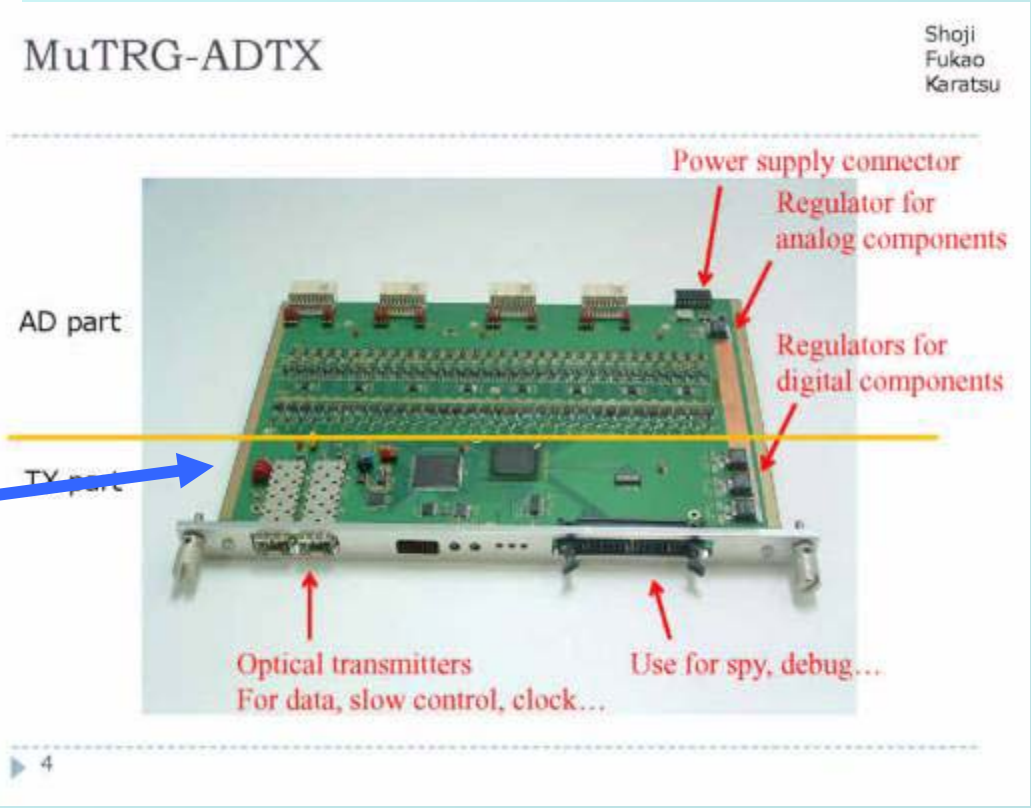


This is now that



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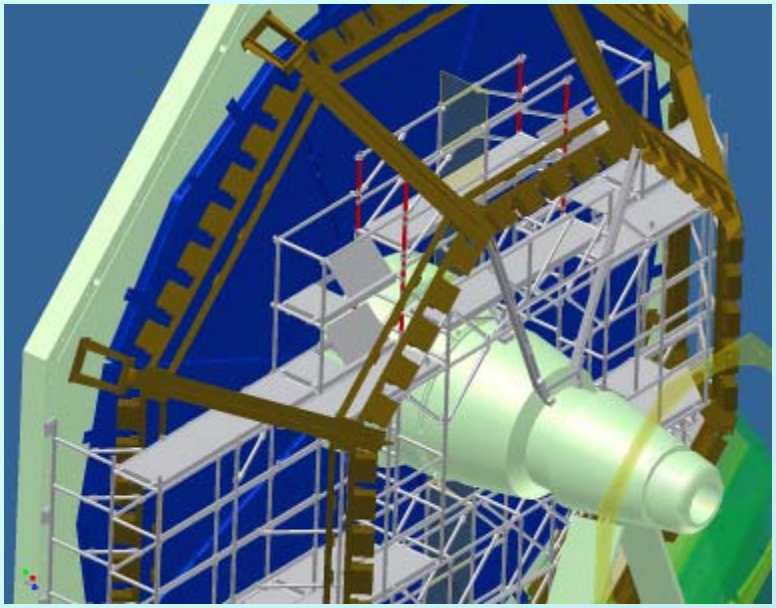
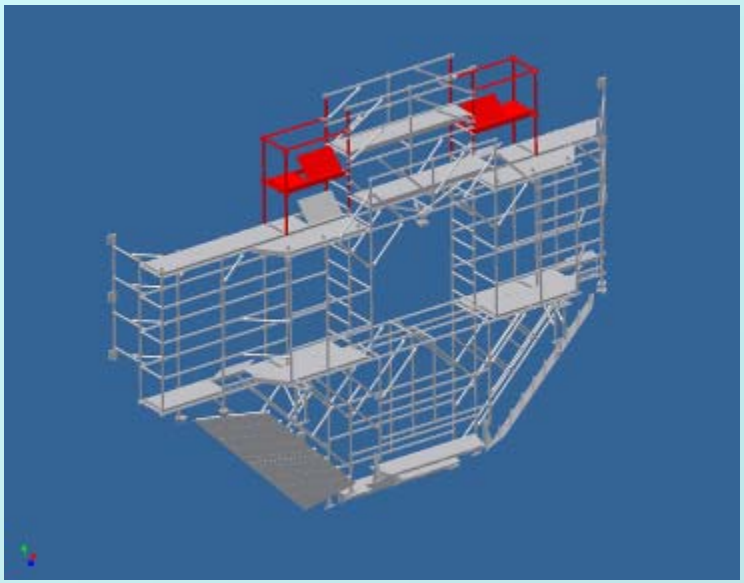
MMN Scaffolding





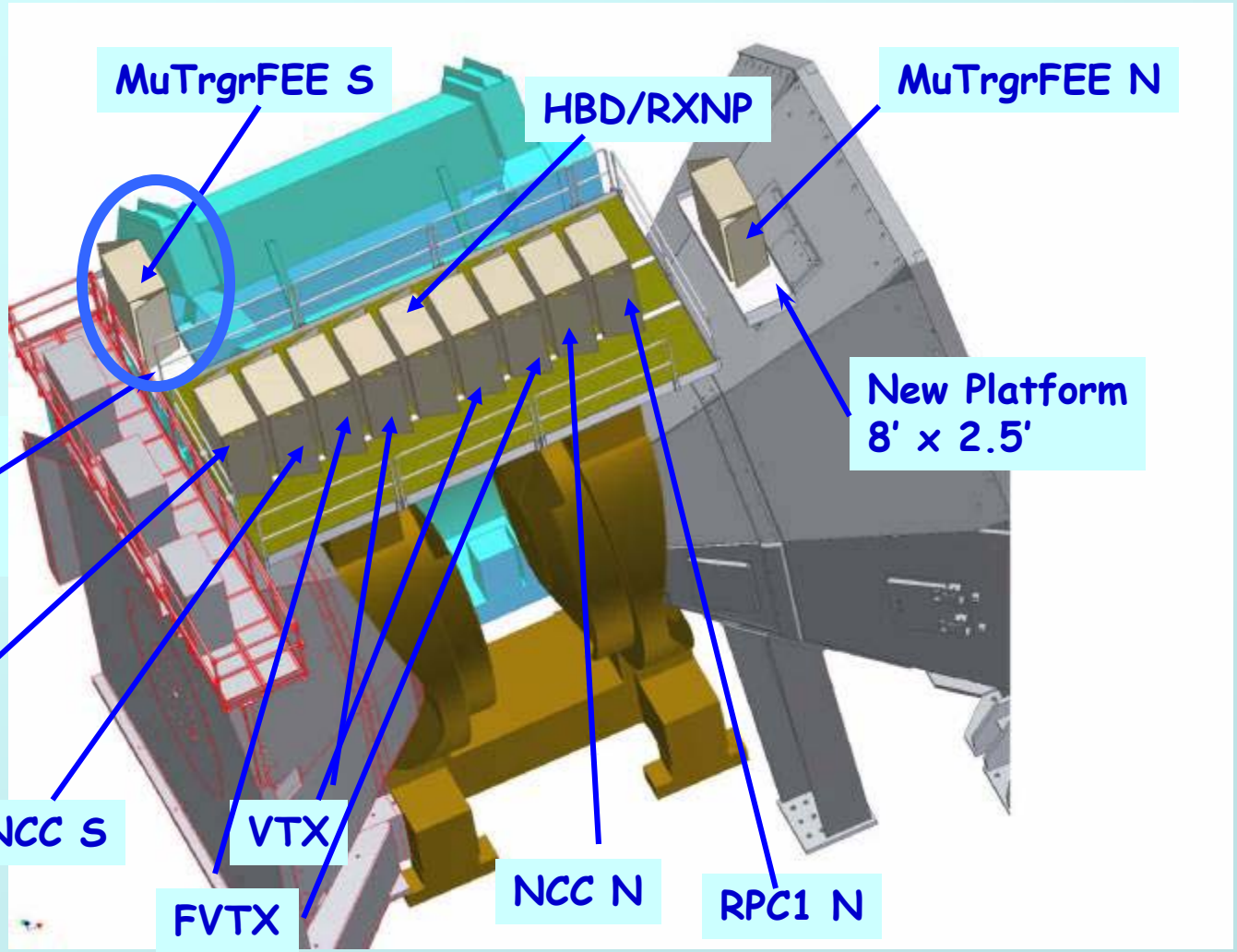
Existing MMN MuTr scaffolding is being redesigned to be assemble-able with only one lampshade removed and access to all station 2&3 FEE's from lower hatch.

Additional scaffolding to be designed to access all Station 1 North FEE's and lampshade sites adjacent to station 1.

Station 1 North scaffolding to be useable for Station 1 South with minimal modification.

Station 2 & 3 South scaffolding to be addressed later

Muon Trigger Rack Platforms



Muon Trigger Rack Platforms

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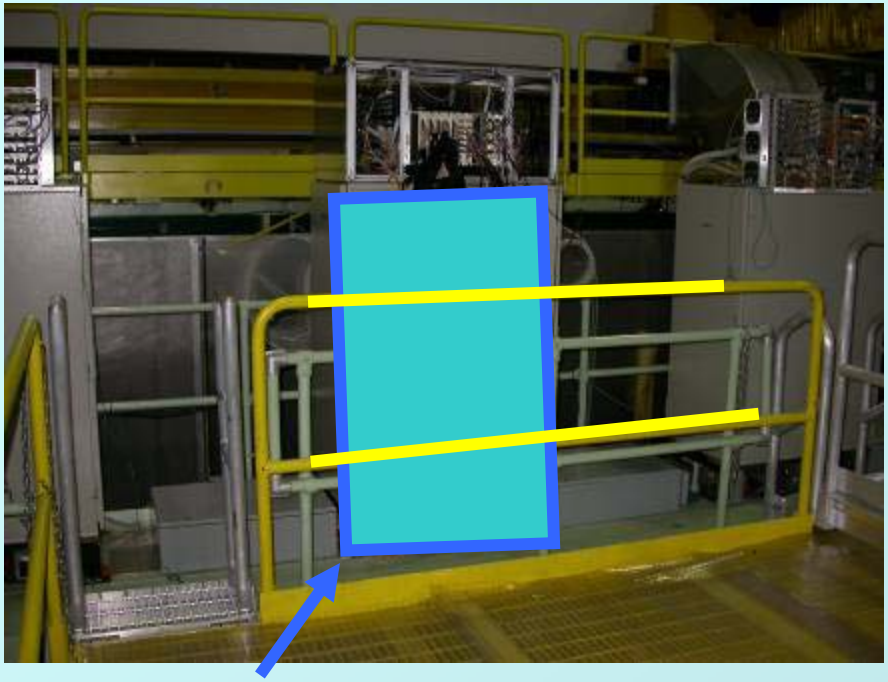
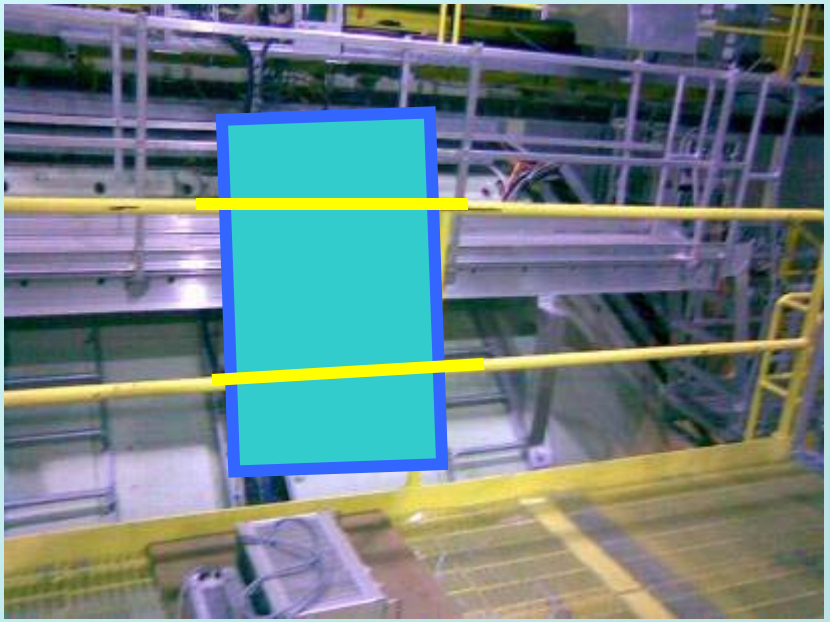


New Idea: Put MuTrggr FEE South Rack in front of middle MuTr Rack on eyebrow. Use bridge as walkaround. (Need rolling walkway on east side like west side).



Made measurements for North Rack.

RPC 3 Design Review

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2008 shutdown: install one RPC 3 South and one RPC 2 South prototype half octant: requires installation fixtures, prototype gas system, modifications to tunnel vapor barriers, prototype electronics, cable routing support, and, of course, structural support design

All require both functional and safety reviews (may be combined) by ~June 2008. Assume installation in Aug.-Sept. 2008.

Cu Absorber installation (1 octant on south)

Final review for 2008 prototype installation, interim review for overall project.

MuTrgr FEE electronics, installation, water & air, safety (final for North, interim for south)

4 months to prepare

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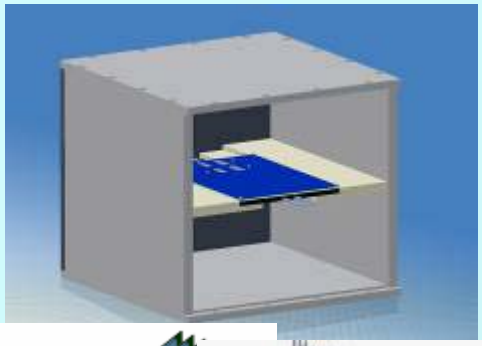
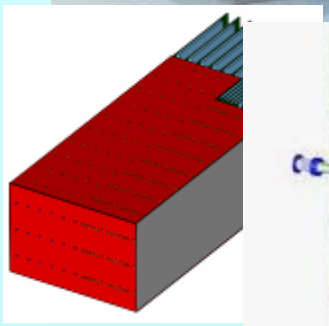
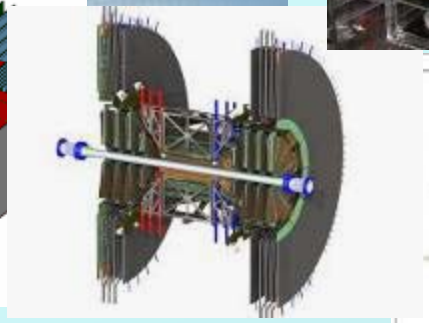
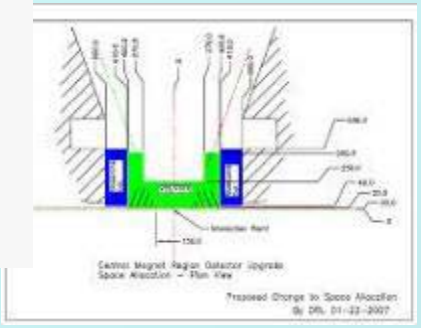
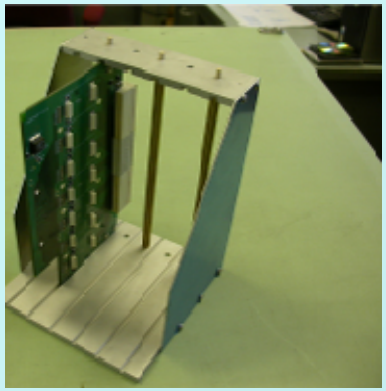
Other Work











- VTX, FVTX and NCC prototype support
  - Integration
  - Physical and Rack space
  - Infrastructure upgrades
- New Counting House Door

New Door installed !

Safety, Security, Etc. :

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ESS&H Monthly injury report:

FY 2008 Goals <16 DOE reportable cases, <6 DART cases.
¼ of the way into year we have 7 DOE recordable, 3 DART and 23 first aid treatments sought (no contractual goals for first aid)

In December and to date in January: 2 recordable, 1 DART, 11 first aid

DART (a DART is also a recordable) – Employee fell out of box truck. Multiple bruises, emergency room treatment

Recordable – hand arm and neck pain due to repeated locking/unlocking door which was difficult to open.

First aid- using pliers on stuck valve: pliers slipped cut hand, tripped on steps – bruises; strong odor – headache, sore throat; banged head – bump; working on overhead fixture – back pain; slipped on black ice – bruises; walking outdoors, tripped on railway – sprain, working on power supply, placed on cart, cart rolled away power supply fell on chest – bruises; walking, stepped on loose pallet by curb, pallet tipped , fell – bruises, walking, looking at papers walked into water bucket, fell – cuts and bruises

Other – Riding in car, reached into back seat – re-injured dislocated shoulder

2008 PHENIX Shutdown

Technical Support 2008

March 2008: Complete Run 8, MUTrigger FEE Prototype tests, Purge flammable gas, open shield wall. RPC Factory work. RPC installation design work.

April 2008: Disassemble Shield wall, remove collars, disconnect EC & move to AH, set up IR for shutdown. Test assembly of MMN scaffolding (in AH). Install Station1 South scaffolding. Install CM access stairs. Prep EC for Shutdown requirements.

May 2008: Install CM Crane. MuTr decapacitations in station1 south. Prep work for MuTrgr electronics platforms north & south. Prep work for RPC prototype installation

June 2008: MuTr decaps, station 1 S & N, PC1 repairs, Inst. station2/3 N scaffolding.

July 2008: Re-Install HBD, RPC prototype gas system, Move shielding for RPC installation, RPC prototype cable routing and support, modify crystal palace and tunnel vapor barrier, fabricate RPC installation fixtures, install MMN Station 2 & 3 scaffolding, TBD subsystem maintenance

August 2008: Install RPC prototypes, install Mu Trigger FEE's in MMS and MMN, Install N&S rack support platforms for Mu Trigger FEE's. Install MMN cooling water and air supply for MMN. TBD prototype tests, TBD infrastructure work

September 2008: Replace tunnel shielding, connect electronics, gas, water and air as necessary for RPC and Mu Trigger FEE,

October 2008: Prepare for run, EC into IR, install collars, build shield wall, etc.

November 2007: blue sheets, white sheets, close wall, start shifts, flam. Gas, physics

5 Year Plan

Technical Support 2008

2008	Install stations 1& 2 of MuTr FEE upgrades (north), 1 octant Cu absorber (S), 2 half otants RPC2/3 S, infrastructure upgrades & repairs, misc. subsystem work, MMN scaffolding
2009	Scaffolding in MMS, MuTr FEE N stn. 1,2 & 3, MuTr N&S stn. 1,2 & 3 repairs, RPC2 N, RPC3 N, north Cu absorbers, infrastructure upgrades & repairs, misc. subsystem work
2010	Remove HBD & RXNP, remove beampipe, DC West upgrade, VTX barrel, south Cu absorber completed, MuTr FEE stn. 3 S, MuTr stn. 1, 2 & 3 S repairs, infrastructure upgrades & repairs, misc. subsystem work
2011	RPC1 N&S, NCC S, FVTX, infrastructure upgrades & repairs, misc. subsystem work, remove south absorber
2012	NCC N, upgrades contingency & wishlist, infrastructure upgrades & repairs, misc. subsystem work, remove north absorber

** Years refer to the shutdown year and follow the run with the similar number (i.e. work in 2008 is to be done in the shutdown that follows run 8, and so on)*

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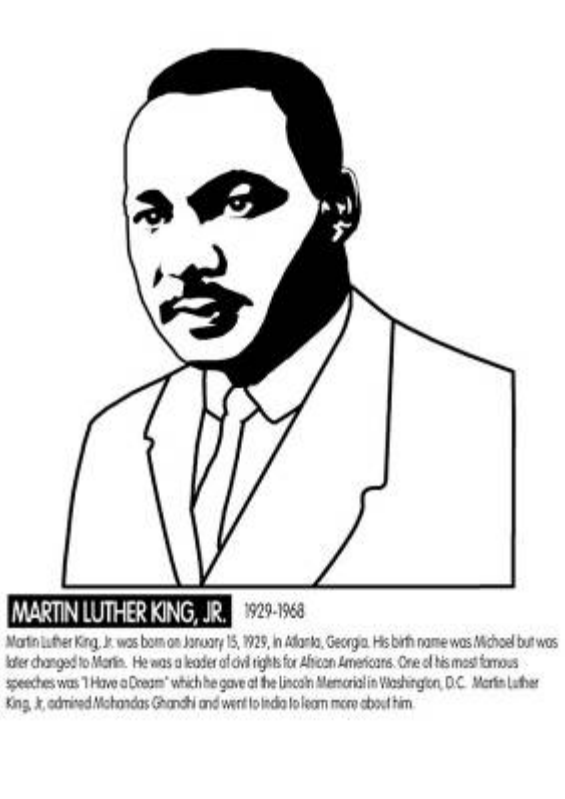
Where To Find PHENIX Technical Info



Happy Martin Luther King Day !

Enjoy your holiday.

Links for the weekly planning meeting slides, long term planning, pictures, videos and other technical info can be found on the web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm